UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

April 28, 2009

U.S. Army Corps of Engineers
Mobile District
P.O. Box 2288
Mobile, AL 36628-0001

Attention: Ms. Linda Brown

SUBJ: EPA Review Comments on the Draft Environmental Impact Statement (DEIS) for Foley Land Cut Portion of the Gulf Intracoastal Waterway, Gulf Shores and Orange Beach, AL. CEQ #: 20090047 ERP#COE-E39076-AL

Dear Ms. Brown:

Pursuant to Section 309 of the Clean Air and Section 102(2)(C) of the National Environmental Policy Act (NEPA), EPA, Region 4 has reviewed the subject document. EPA is a cooperating agency and provided agency scoping comments to the US Army Corps of Engineers (USACE) on (insert date). The proposed project evaluates the environmental and socioeconomic consequences of the US Army Corps of Engineers (USACE) proposal to grant permits for the construction of 15 mixed-used developments that include: 17 marinas, over 16,700 condominium units, 1,772 wet boat slips, 1,742 dry boat storage spaces, commercial buildings, support facilities and resort amenities along the Foley Land Cut (FLC) portion of the Gulf Intracoastal Waterway (GIWW) in south Baldwin County, Alabama. The FLC is a 10-mile long federally authorized and maintained commercial fishing channel that extends from Wolf Bay to Oyster Bay. It currently is an authorized channel of -12-foot mean lower low water (MLLW).

The DEIS examines three alternatives - the No Action Alternative, Maximum Boat Slip Alternative, and the Minimum Boat Slip Alternative. The Minimum Boat Slip Alternative is identified as the preferred alternative. Under this alternative, the USACE would initially approve permits for 1,818 or 1,943 (with mitigation) boat slips through the first year of construction compared to 3,093 boat slips under the Maximum Boat Slip Alternative. The option to increase the number of boat slips up to the maximum (3,093) is allowed based on annual evaluations of changes in use, safety, and commercial navigational traffic (section 2.3.2.3, page 2-43). A planning horizon of 2025 (16 years) was used to identify and assess project impacts.

Alternatives: All of the alternatives selected for detailed analysis in DEIS focus solely on the number of boat slips not the number or location of the developments/marinas (locations 1.2 and 2-3). The alternatives analysis for the fifteen marinas appears to be missing. This probably results from the fact that the marinas are already in the permitting phase and the USACE is only dealing with the potential number of recreational vessels that could be maintained without interfering with the congressionally approved purpose of commercial navigation traffic (section 2.3.2, page 2-41). Nonetheless, the question remains are or were there better available locations for marina development at the time the applicants acquired their properties? It seems unusual

that all 15 marina Clean Water Act section 404 (CWA 404) permits would result in the applicant's preferred alternative, their proposed project site.

Aquatic Resource: The direct impact on the water of the U.S. examines dredging and filling waters of the U.S. Table 6 "*Summary of Original Proposed Developments*" indicates that over 3 million cubic yards of dredged material will be required for all 17 marinas and 2.05 acres of jurisdictional wetlands will be filled. The table does not include the total length or area of dredged channels and slips for the amount of dredged material. This information should be modified and incorporated in the FEIS. Additionally, the FEIS should have a section dealing with the beneficial use of dredged material.

Proposed Site: Of the fifteen proposed developments, Oyster Bay is the development that poses the most concern. The development involves a 205-acre site in Gulf Shores, AL for a marina, condominiums and other amenities. The marina requires cutting across the entire diameter of the cylindrical Oyster Bay to access the Foley Land Cut. In addition, this marina requires an extensively long access boardwalk to cross the wetlands before getting to the open water of Oyster Bay where additional dredging will be required for the marina basin. The project requires the excavation of 675,000 cubic yards of sand for the marina and access channel to the FLC. The access channel is 4,600 linear feet (ln ft) (0.87 miles) long. The boardwalk to access the wet boat slips will be approximately 3,360 ln ft (0.64 miles) long. (Pages 2-25 and 2-26).

The DEIS suggests that adverse impacts due to shading should not occur because the project board walks that cross the wetlands are ten foot high by ten foot wide with "¾" spacing between boards allowing adequate light to pass through (page 2-25). It would be helpful to indicate which ADEM regulation this statement references that would suggest that no wetland shading impacts are anticipated at Oyster Bay.

Water Quality: Water quality within the FLC and the dredged access channels and boat slip areas is of particular concern to EPA. The hydrodynamics of the FLC water was very limited (section 3.3.1.3 - page 3-9 and 10). Reference to a 1980s dye study suggests that the FLC was subject to rapid flushing with a net flow toward the west. The FEIS should quantify what rapid flushing and sloshing means.

The referenced study was conducted prior to the deepening from 8 feet to 13 feet. The date of the dredging was not provided other than to state that the study was completed after the collection of the 1980s dye study. Water retention time within the FLC may have significantly increased with the 89 percent increase in depth and cross section. The time it takes to completely flush the FLC (turnover) may have significantly increased with this increased volume. In addition, there was a statement that ADEM collected cross section flow and velocity measurements. The FEIS should have numerical values or an analysis provided to independently assess the potential impacts on water quality with the newer FLC depth and the proposed new dead end canals and channels that would be perpendicular to the FLC.

The FEIS should also include discussions regarding the ability of each marina configuration to flush. The majority of the marina configurations are perpendicular canals, one is donut shaped, and several will widen the FLC but will be separated from the FLC by wave

attenuators. The flushing of the FLC has already been identified as potential issue. The flushing of narrow canals perpendicular to the water sloshing east and west within the FLC raises additional water quality concerns that have not been addressed within the DEIS.

Water quality is discussed in section 3.3.3.2. (page 3-14). This section indicates that the FLC was impaired for dissolved oxygen and placed on ADEM's 1990 CWA section 303(d) list of impaired waters, and that two segments were delisted in 2003. The narrative describes ADEM and EPA data collection generically with no specific information or objective discussion of the water quality currently within the FLC. The FEIS should summarize and state the FLC's existing water quality conditions. The document states that the July modeling of the existing conditions met the ADEM dissolved oxygen numeric criteria, requiring 5.0 mg/L or higher, with a value of 5.1 mg/L. The EPA has concerns that the ADEM water quality criteria may not be met during the month of August or with the proposed additional development and typical maintenance dredging depths of two more feet. There does not appear to be any assimilative capacity left in the FLC.

The DEIS states that the direct and indirect impacts to water quality would be negligible in the FLC based on water quality model EFDC in appendix S (pages 4-7 to 4-9, section 4.3.3.). The modeling effort used the 2001 National Land Cover Database (page 4-8). The Building Permits Total Value of Construction, Table 32 (page 3-50) indicates that between 2002 and 2007 over 1 billion dollars worth of infrastructure was constructed in Gulf Shores and 1.46 billion dollars worth of infrastructure was constructed in Orange Beach. This indicates that the DEIS modeling may be substantially under estimating the impacts of development on water quality. The results that the ADEM standard of >5.0 mg/l may be exceeded in July by a value of 5.1 mg/l is questionable. EPA is concerned about the accuracy of the modeling and whether it could accurately define the July value of 5.1 mg/L with 100 percent confidence. There is a statistical probability that the model's accuracy could be more than ± 10 percent, thus indicating a situation predicting violation of the ADEM dissolved oxygen water quality standard. The FEIS should update with State or local land use cover and provide the model's statistical accuracy including variances and confidence.

Section 4.3.3.2 (page 4-8) also made a statement that "(l)ocalized impacts at individual marinas were evaluated using equations provided in EPA's *Environmental Impacts: Assessment Techniques of Marinas*", (page 4-8). But the DEIS does not provide any quantitative results. This section also makes a statement that the "DO represented by the EFDC model from the FLC are considered ambient conditions entering and leaving the marinas. Therefore, water quality standards would be achieved under this alternative in the FLC, as well as in the proposed marinas." The EPA is concerned that generalized hydrodynamic modeling of the various configurations for each marina includes many assumptions that have potentially significant flaws. The slosh of water into and out of a perpendicular canal into the FLC could not be consistent along the entire length of the canal. The retention time of the water at the upper end of the canals would be significantly greater than that at the mouth of the canal. Based on several of the assumptions made, EPA is concerned that the DEIS has significantly underestimated the impact of the proposed project on water quality.

Direct impacts to land use and land cover from increased impervious surface in the proposed project area is expected to adversely impact groundwater recharge, stormwater drainage, and water pollution in the project area (page 4-5, section 4.2.2). For the proposed alternative the DEIS states that "the impacts under this alternative would be expected to increase proportional to the phased development," (page 4-5, section 4.2.3.). It also states that, "(r)equiring impervious areas greater than a specified area to be located farther back from the water's edge provides an opportunity to attenuate the runoff from these areas via infiltration and filtering through vegetated buffers." However, neither the DEIS nor the Mitigation Plan and Management Options (pages 2-44 to 48, section 2.4) has any provisions requiring this identified best management practice. The FEIS should provide BMP commitments as opposed to merely providing information about potential minimization/mitigation measures. All project related commitments should be included in the project summary in the front section of the EIS. The FEIS should describe each of the 15 marina projects and their related impervious surfaces.

This section relies heavily on the integration or use of best management practices (BMPs). The statement "(r)esults also assume the BMPs would be implemented in the project area," (page 4-8, section 4.3.3.2). Based on our observations, many of the USACE CWA 404 permits leave BMPs up to ADEM in their CWA section 401 water quality certification (401 cert.), and the USACE does not include the 401 cert. conditions as special conditions of their federal permits. EPA's comments provided during the public comment period regarding water quality impacts are often referred to the ADEM 401 cert. The typical best management practices (BMPs) applied to construction sites to control the discharge of sediment to streams are critical to watershed protection.

The current DEIS and the individual marina permit applications have a limited amount of information regarding secondary and cumulative assessments or analysis related to the impacts of project construction and impervious surfaces on the remaining waters of the U.S. Most of the Mobile District CWA 404 permits issued in the State of Alabama rely upon the State's General Construction Storm Water National Pollutant Discharge Elimination System and their CWA section 401 *Water Quality Certification* to cover this issue. National surveys have shown that for erosion and sediment control ordinances (ESCs) 16 percent were never installed, 16 percent where improperly installed, and 18 percent of the ESCs failed due to the lack of proper maintenance. Another significant finding was that for the "protected" trees and forested areas within a plan more than 57 percent were destroyed, and 24 percent reported clearing into the protected area. Consequently, the assumptions related to BMP usage that are heavily relied to determine the magnitude of the projects impact in the DEIS, may not be supported by the evidence[1].

Compensatory Mitigation: The DEIS is missing important information to make a factually sufficient determination related to wetland impacts. While wetland mitigation proposals for two developments are incorporated in the DEIS, a mitigation strategy for Walker Creek/Portage Crossing development is not included (page 2-39).

[1] Center for Watershed Protection. *The Practice of Watershed Protection; editors* Thomas Schueler and Heather Holland. Elliocott City, MD. Pages 7, 85, and 305.

Construction of Developments: The Alabama Department of Environmental Management (ADEM) has a NPDES construction general permit (CGP) that covers all land disturbing activities greater than one acre. In addition, all local ordinances and local permits regarding clearing and grading should be secured before start of activities. After permits are secured from the State, all guidelines regarding coverage must be met. Per requirements of the CGP, a Stormwater Pollution Prevention Plan (SWPPP) should be developed that contains the following elements:

- Project and SWPPP contact information
- Site and activity information, including site map
- Identification of potential pollutant sources
- Description of controls to reduce pollutants
- Maintenance/Instruction procedures
- Records of inspections and follow-up
- SWPPP amendments, SWPPP certification and Cover and Title Page

EPA recommends that measures be taken to minimize water quality and other environmental impacts due to sedimentation and erosion. These measures include:

- Stabilizing site/areas as soon as possible
    - Get site to final grade and permanently or temporarily stabilize bare soil areas. Additional considerations to minimize impacts include phased clearing and grading to coincide with planned construction activities.
- Protect all slopes and channels
    - Convey concentrated stormwater runoff around the top of slope and stabilize as soon as possible.
- Reduce impervious surfaces and promote infiltration
    - Divert runoff from rooftops and other impervious surfaces to vegetated areas to promote infiltration.
- Control perimeter of site during construction phases
    - Avoid allowing run-off to contact disturbed areas of construction site.
    - Install proper and adequate best management practices (BMPs) to capture sediment before it leaves site.
- Minimize the area and duration of exposed soils

Opportunities for Incorporation and Use of Green Infrastructure Concepts:

Green building practices should be considered that provide an opportunity to create environmentally-sound and resource-efficient buildings by using an integrated approach to design. Green buildings promote resource conservation, including energy efficiency, renewable energy, and water conservation features. It also takes into consideration environmental impacts and waste minimization; reduces operational and maintenance costs; and addresses issues such as transportation and other community infrastructure systems. Given the historic drought levels facing Alabama and the national energy policy, resource conservation measures that minimize impacts from major federal facilities are important. The FEIS should encourage and promote the use of resource conservation and pollution prevention measures in the development of the proposed site, design, and operation. Listed below are some website for your consideration.

See website resources listed below:
US Green Building Council http://www.usgbc.org/DisplayPage.aspx?CategoryID=19
US EPA www.epa.gov/opptintr/greenbuilding
Environmental Design and Construction www.edcmag.com

Based on our review of the DEIS, EPA rates the document an EC-2. This means that there are remaining environmental concerns and additional information needs have been identified. Overall, EPA's concerns are related to the adequacy of the alternatives analyses, data gaps (e.g. linear foot or area being dredged), and the need for additional information related to minimization, and compensatory mitigation. In addition, the assumptions and baselines used for water quality and hydrological impacts assessment appear as though they may be underestimated or flawed. Consequently, EPA may find that the proposed project will likely result in adverse affects to water quality within several of the marinas and potentially the FLC. These issues should be addressed in the FEIS. In addition, specific best management practices designed to minimize water quality impacts should be incorporated into each permit application as a special condition of the permit.

Thank you for the opportunity to comment on the DEIS. If we can be of further assistance, please do not hesitate to contact Ntale Kajumba of the NEPA Program at (404) 562-9620 or kajumba.ntale@epa.gov or Duncan Powell of the Wetlands Sections at (404)562-powell.duncan@epa.gov.

Sincerely,

Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management